



UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION IV
611 RYAN PLAZA DRIVE, SUITE 1000
ARLINGTON, TEXAS 76011

AC 93-1

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MEMORANDUM FOR: James E. Richardson, Director
Division of Engineering Technology
Office of Nuclear Reactor Regulation

FROM: Leonard J. Callan, Director
Division of Reactor Safety, Region IV

SUBJECT: REQUEST FROM RES FOR INFORMATION RELATED TO ADOPTION OF
SUBSECTION IWE, SECTION XI OF THE ASME CODE

This is in response to your subject memorandum dated December 21, 1989. The information provided was obtained through interviews with Region IV site resident inspectors and regionally based inspectors that have monitored the licensees' inspection efforts in the area of containment structures. The following is a summary of their response.

The present Appendix J to 10 CFR Part 50 provides specific pass/fail criteria for Types A, B, and C leak rate tests (i.e., local leak rate tests (LLRT) and containment integrated leak rate tests (CILRT)). It provides definitions and states the type of test method which is considered to be acceptable. In addition, it provides a list of exemptions the licensee may take if the associated acceptance criteria is met. However, the present Appendix J does not provide any specific information or guidance on how to conduct these types of tests, such as in the use of the maximum or minimum leak path method, or in how and when to apply "as found" and "as left" test results. As a result, some of these items are left to interpretation which leads to a lack of uniformity in the way the tests are performed from plant to plant and from region to region.

The proposed revision to Appendix J will improve upon this. There will be more specificity in the areas described above but there will still be a minimum of guidance on how to perform a test. The boiling water reactor owners' group (BWROG) has made an effort to address this in a proposed standardized test procedure. They have yet to reconcile the differences between this proposed procedure and the present and planned NRC regulations.

It must be noted that Appendix J does not provide acceptance criteria or guidance for any other form of containment inspections, including containment liner inspections. The methodology for performing these inspections is not readily available. These types of inspections are necessary to determine the ongoing condition of the third and last radiological barrier. As an example, one of these inspections is conducted prior to a Type A leak rate test to verify that there is no evidence that the containment structural integrity and leak-tightness has been affected by any work that was performed during plant outages. As a result, there is usually a lack of guidance, and uniformity in how these inspections are performed from one plant to another.

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Training of personnel for the Types B and C leak rate tests is performed on a periodic basis at most plants. For the Type A (CILRT) test, training is provided prior to the outage when the Type A test is scheduled to be performed. The training for the Type A, B, and C tests is based on what is contained in the test procedures for each plant, and differ from plant to plant and from region to region. As for other forms of containment inspections, training is even less uniform, and in some cases, nonexistent.

The results of previous containment or component leak rate tests are readily available. The information contained in these tests is quite detailed and it is filed for easy retrieval. On the other hand, information from other forms of containment inspections are almost nonexistent. Other than a signature on a step of a nondedicated procedure, the only other time that more details are available is when a problem is identified and either a condition report is written or a maintenance work order is issued. This information is not readily retrievable unless one is cognizant of the specific maintenance work order number or condition report number. If a potentially serious problem is identified in the containment building liner or structure, the licensee will normally trend its progress to determine if the problem is getting worse.

Based on the information provided, it is apparent that additional comprehensive guidance is needed in the areas described above. As a result, Subsection IWE of Section XI of the ASME Code should address the different types of containment structures (e.g., Mark IV's and Ice Condenser Containments) and the unique problems associated with each. Guidance should also be provided to supplement those areas that are regulated by Appendix J, such as the CILRTs. For example, to help minimize the chance of a valve alignment error prior to entering a test, the importance of independent verifications should be stressed.

We hope you will find our comments useful. Please contact either Ray Azua (FTS 728-8134) or Bill Seidle (FTS 728-8148) if you have any questions.


L. J. Callan, Director
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